

540, 846

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
29 July 2004 (29.07.2004)

PCT

(10) International Publication Number
WO 2004/063225 A2

- (51) International Patent Classification⁷: **C07K 14/78**
- (21) International Application Number:
PCT/EP2003/050974
- (22) International Filing Date:
10 December 2003 (10.12.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/436,786 27 December 2002 (27.12.2002) US
- (71) Applicant (*for all designated States except US*): **APPLIED RESEARCH SYSTEMS ARS HOLDING N.V.** [NL/NL]; Pietermaai 15, Curacao (AN).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): **BIENKOWSKA, Jadwiga** [PL/US]; 45 Fayette St., Apt 3, Cambridge, MA 02139 (US). **MCALLISTER, Gregg** [US/US]; 65 Chelsea St., Apt 407, Charlestown, MA 02129 (US).
- (74) Agent: **SERONO INTERNATIONAL S.A. INTELLECTUAL PROPERTY**; 12, chemin des Aulx, CH-1228 Plan-les-Ouates (CH).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— *without international search report and to be republished upon receipt of that report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: NOVEL FIBULIN-LIKE POLYPEPTIDES

(57) Abstract: The present invention discloses open reading frames (ORFs) in human genome encoding for novel fibulin-like polypeptides, and reagents related thereto including variants, mutants and fragments of said polypeptides, as well as ligands and antagonists directed against them. The invention provides methods for identifying and making these molecules, for preparing pharmaceutical compositions containing them, and for using them in the diagnosis, prevention and treatment of diseases.

WO 2004/063225 A2

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
29 July 2004 (29.07.2004)

PCT

(10) International Publication Number
WO 2004/063225 A3

(51) International Patent Classification⁷: **C07K 14/78**,
C12N 15/62, 15/12, C07K 16/18, A01K 67/027, C12N
5/10, A61K 38/39, G01N 33/48, 33/50

(21) International Application Number:
PCT/EP2003/050974

(22) International Filing Date:
10 December 2003 (10.12.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/436,786 27 December 2002 (27.12.2002) US

(71) Applicant (for all designated States except US): **AP-
PLIED RESEARCH SYSTEMS ARS HOLDING N.V.**
[NL/NL]; Pietermaai 15, Curacao (AN).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **BIENKOWSKA**,
Jadwiga [PL/US]; 45 Fayette St., Apt 3, Cambridge,
MA 02139 (US). **MCALLISTER, Gregg** [US/US]; 65
Chelsea St., Apt 407, Charlestown, MA 02129 (US).

(74) Agent: **SERONO INTERNATIONAL S.A. INTEL-
LECTUAL PROPERTY**; 12, chemin des Aulx, CH-1228
Plan-les-Ouates (CH).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE,
GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR,
KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK,
MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT,
RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR,
TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (BW, GH,
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,
SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA,
GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments

(88) Date of publication of the international search report:
14 October 2004

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: **NOVEL FIBULIN-LIKE POLYPEPTIDES**

(57) Abstract: The present invention discloses open reading frames (ORFs) in human genome encoding for novel fibulin-like polypeptides, and reagents related thereto including variants, mutants and fragments of said polypeptides, as well as ligands and antagonists directed against them. The invention provides methods for identifying and making these molecules, for preparing pharmaceutical compositions containing them, and for using them in the diagnosis, prevention and treatment of diseases.



WO 2004/063225 A3

INTERNATIONAL SEARCH REPORT

International Application No

Γ/EP 03/50974

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07K14/78 C12N15/62 C12N15/12 C07K16/18 A01K67/027
C12N5/10 A61K38/39 G01N33/48 G01N33/50

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07K C12N A01K A61K G01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS, MEDLINE, WPI Data, PAJ, Sequence Search

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 02/078420 A (INCYTE GENOMICS INC) 10 October 2002 (2002-10-10) sequences 14,37	1,4,5, 10,11, 16-23, 27-41
X	DATABASE EMBL 31 October 2001 (2001-10-31), ISOGAI T. ET AL.,: "Homo sapiens cDNA FLJ32009 fis, weakly similar to fibulin-1, isoform A precursor" XP002288678 retrieved from EBI Database accession no. AK056571 cited in the application the whole document	13,15
	-/--	



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the International filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the International filing date but later than the priority date claimed

- *T* later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *G* document member of the same patent family

Date of the actual completion of the international search

20 July 2004

Date of mailing of the international search report

02/08/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Mabit, H

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 03/50974

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DATABASE EMBL EBI; EST 12 August 2002 (2002-08-12), XP002288679 retrieved from EBI Database accession no. BQ642831 the whole document	13,15
P,X	----- DATABASE UNIPROT EBI; FLJ32009 1 October 2003 (2003-10-01), STRAUSBERG RL ET AL.,: XP002288680 retrieved from EBI Database accession no. Q7Z7L6 the whole document	1,2,4, 18,27, 29,41
P,Y		1-6,10, 11, 13-23, 27-41
Y	----- ARGRAVES W S ET AL: "FIBULIN IS AN EXTRACELLULAR MATRIX AND PLASMA GLYCOPROTEIN WITH REPEATED DOMAIN STRUCTURE" 1990, JOURNAL OF CELL BIOLOGY, VOL. 111, NR. 6 PART 2, PAGE(S) 3155-3164 , XP002288676 ISSN: 0021-9525 page 3160, column 2 - page 3163	1-6,10, 11, 13-23, 27-41
Y	----- ZHANG RUI-ZHU ET AL: "Fibulin-2 (FBLN2): Human cDNA sequence, mRNA expression, and mapping of the gene on human and mouse chromosomes" 1994, GENOMICS, VOL. 22, NR. 2, PAGE(S) 425-430 , XP002288677 ISSN: 0888-7543 page 426, column 2 - page 430; figures 1,2	1-6,10, 11, 13-23, 27-41

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP 03/50974

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
Although claims 28, 31-32, and 35
are directed to a method of treatment of the human/animal body, the search has
been carried out and based on the alleged effects of the compound/composition.
2. ☒ Claims Nos.: 7-9, 12, 24-26 and claims 10, 13, and 27 partially
because they relate to parts of the International Application that do not comply with the prescribed requirements to such
an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all
searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment
of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report
covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is
restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.1

Although claims 28, 31-32, and 35 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.

Continuation of Box I.2

Claims Nos.: 7-9, 12, 24-26 and claims 10, 13, and 27 partially

Present claims 7-9, 12, 24-26 and claims 10, 13, and 27 partially relate to compounds defined by reference to a desirable characteristic or property, namely to be a ligand, an antagonist, a peptide mimetic or a compound that enhances or reduces the expression level of the fibulin-like polypeptide of the invention.

The claims cover all compounds having this characteristic or property, whereas the application provides support within the meaning of Article 6 PCT and disclosure within the meaning of Article 5 PCT for none of these compounds. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search of the subject-matter of these claims was impossible. Independent of the above reasoning, the claims also lack clarity (Article 6 PCT). An attempt is made to define the compound by reference to a result to be achieved. Again, this lack of clarity in the present case was such as to render a meaningful search of these claims impossible.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 03/50974

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
WO 02078420	A	10-10-2002	WO	02078420 A2	10-10-2002
			WO	03062391 A2	31-07-2003
			CA	2459442 A1	20-03-2003
			WO	03023003 A2	20-03-2003
			WO	03054219 A2	03-07-2003
<hr/>					